From: Whipple, Wayne
To: Oliver, Karen; Caudill, Motria
Cc: Whitaker, Donald
Subject: RE: Summary of BP Whiting results, some questions
Date: Tuesday, June 09, 2015 2:58:54 PM
Attachments: image003.png

Thank you for looking at it so closely. I am very interested in the data, but am extremely overwhelmed here with lab issues. We have a huge amount of samples in house and I am still having problems with the newer Entech.

Sorry

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From: Oliver, Karen
Sent: Tuesday, June 09, 2015 2:18 PM
To: Caudill, Motria
Cc: Whitaker, Donald; Whipple, Wayne
Subject: RE: Summary of BP Whiting results, some questions

Hi Motria,

I've attached a spreadsheet that Don put together with additional plots of the data. In our opinion, the data should be presented as % difference rather than % error (i.e. compared against each other rather than assuming that canisters are correct – especially since this particular canister method involves a week-long canister sampling period using the Entech flow restrictors set at very low flow rates). We think the results are very good considering that the can and tube methods are totally different.

Also, I think the audience will be interested in knowing how well the canister inlets performed over the week-long sampling period (initial flow settings vs. final and consistency of canister final vacuum).

I've attached a JEM article from some of our previous work in which tubes were compared to canisters and an autoGC system in Detroit that may be of interest.

Karen

From: Caudill, Motria

Sent: Tuesday, June 02, 2015 11:00 AM
To: Whipple, Wayne; Oliver, Karen
Subject: Summary of BP Whiting results, some questions

Wayne and Karen - Attached are the BP Whiting compiled results for benzene and toluene. We have 28 paired sets of ORD/CRL samples. The benzene comparison with BP's auto-GC stations is goofed up because their data for Sites #1 and 4 seem to have a calculation error; you can see that the numbers track with CRL, but are much higher. I'll contact them separately to ask about this.

Below is a summary of % difference in Benzene, CRL vs ORD, by week and site. Overall the paired samples average 33% different (ORD usually higher). Comparisons are consistent across the 4 stations (the duplicate canisters look okay, Site #2) but you can see that differences were greatest in the last two weeks of sampling in late October. I don't think this would be temperature-dependent, because the weekly average temp was in the mid-50's for all of October. Do either of you have an idea of what might have changed in your systems during late Oct, early Nov?

Benzene: Absolute value of % difference, CRL vs. ORD

Week	Site 1	Site 2	Site 3	Site 4	Ave
2 (1)	22	11	18	58	27
3	30	50	17	28	31
4	24	23	1	9	14
5	9	9	41	26	21
6	34	23	34	15	27
7	57	45	46	66	53
8	50	76	44	57	57
Ave	32	34	29	37	33

The other outstanding question is - how much of the difference should be attributed to sampling media and how much to the use of two different laboratories? Wayne - can you provide a summary of your analysis of ORD's calibration standard.. or is there anything else I can say in the write-up to address this question?

Let me know if you have any questions about the spreadsheet. Suggestions about how to present the findings also appreciated. Thank you guys for everything!!

-Motria